

## COMPUTER INFORMATION SYSTEMS

### CIS 012 CRSE SPCFC STDY SK-CIS 112

1 Lecture 0 Lab 1 Credit Hours(s)

CIS 012 is a study skills course designed for those students who require support in CIS 112, Computer Programming I. The course will include work designed to assist the student with notetaking, exam preparation and test taking, to assist the student in developing the ability to evaluate problem statements, develop algorithms, design program structures, code program solutions, design flowcharts, and debug and present programs.

NOTE: CIS 012 is a credit equivalent course. Equivalent credits do not satisfy degree requirements and are not calculated in a student's grade point average, but they do incur tuition charges and they do count towards full-time/part-time status.

### CIS 100 CIS INTRODUCTORY SEMINAR

1 Lecture 0 Lab 1 Credit Hours(s)

Designed for students enrolled in CIS, this course will provide students with an opportunity to develop both personally and professionally. The course will provide information regarding effective time management, effective study techniques, utilization of college resources and establishing both short term and long term educational goals. The course will stress the need for integrity, self-discipline and respect for others as fundamental building blocks in career and life planning. The course will also explore various career paths in the rapidly evolving field of Information Science.

### CIS 107 CONDUCTING BUS ON THE INTERNET

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to conducting business on the Internet. To remain competitive, many companies and entrepreneurs have established a presence on the Internet and are actively involved in conducting business on the net. The student will be exposed to the vast business potential of the net including creating effective web sites using HTML (Hypertext Markup Language), cascading style sheets, imaging and search engine optimization.

### CIS 108 CONDUCTNG RESEARCH ON INTERNET

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to the Internet. Students will be provided with necessary skills to effectively explore the information highway in a disciplined and academically productive manner. Students will have the opportunity to conduct in-depth research using the many electronic information resources available in cyberspace. Students will design and develop a web site to report the results of their research.

### CIS 111 COMPUTER SYSTEMS & APPLICATNS

3 Lecture 0 Lab 3 Credit Hours(s)

This course introduces the student to the basic terminology and concepts of computer information systems. Topics include: computer business applications, computer components, software design, operating systems, databases, data communications, computer ethics, computer security, and management information systems. Practical hands-on experience will be provided using popular integrated microcomputer application software in database, spreadsheet and word processing management.

### CIS 112 COMPUTER PROGRAMMING I

4 Lecture 0 Lab 4 Credit Hours(s)

A course designed to introduce methods of solving computer business-oriented problems. A high level programming language is used to learn arithmetic, relational and logical operations, structured programming techniques, table manipulation, I/O data formats and internal subroutines. Programming activities involve problem definition, analysis, solution and documentation. No prior programming experience required.

### CIS 113 VISUAL BASIC PROGRAMMING

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to computer programming. It will focus upon the necessary logic structures required for structured programming. In addition, it will provide the students with an opportunity to apply the logic structures using the Windows-based programming language Visual Basic, a powerful and versatile language. Students will complete a series of programming assignments in the course. No prior experience with programming is required.

### CIS 114 COMPUTER PROGRAMMING IN C

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to the fundamental constructs of the C language. The syntax of the language will be examined and various algorithms will be implemented using the language. The course will also explore the operating systems environment from an application programmer's perspective.

Note: A programming course on the high school or college level is recommended.

Pre-Requisites: CIS112, CIS113, a programming course, permission of instructor.

### CIS 117 DATA COMMUNICATION CONCEPTS

3 Lecture 0 Lab 3 Credit Hours(s)

This course is designed to introduce the students to the concepts of data, voice and video communications. Topics include communication terminology, local and wide area networks, transmission media, data integrity

and security, network management, maintenance of applications and networking operating systems. In addition, current policy issues involved with the communication industry will be examined.

Prerequisite: CIS 111 or concurrent enrollment, or permission of the instructor.

#### CIS 120 COMPUTER BASED PUBLISHING

3 Lecture 0 Lab 3 Credit Hours(s)

This course will provide the student with the necessary skills to electronically publish material in a variety of mediums. In particular, the course will concentrate on desktop publishing and world wide web publishing. The students will be exposed to a variety of popular software packages such as Adobe Photoshop, Adobe InDesign, Adobe FLASH and Adobe Acrobat.

Prerequisite: CIS 111 or concurrent enrollment, or permission of the instructor.

#### CIS 123 COMPUTER PROGRAMMING II

3 Lecture 0 Lab 3 Credit Hours(s)

A course designed to present intermediate features and interrelations of the curriculum's high-level programming language. Topics include advanced language specifications and syntax, input-output processing, storage allocation, data types and organizations, and subroutine linkage. Programming activities involve problem definition, analysis, solution and documentation.

Prerequisite: CIS 112 with a grade of C or better.

#### CIS 124 COMPUTER OPERATING SYSTEMS

3 Lecture 0 Lab 3 Credit Hours(s)

A systems-oriented course concentrating on methods and procedures that increase the efficiency and effectiveness of a computer installation. Topics include systems control programs, systems service and utility programs, operating system concepts, virtualization, Windows and the Powershell scripting language.

Prerequisite: CIS112 or CIS113 or CPS141, with a grade of C or better.

#### CIS 126 UNIX/LINUX

3 Lecture 0 Lab 3 Credit Hours(s)

This course will provide the student with an understanding of the functions of a LINUX based operating system. The LINUX/UNIX system will be utilized to provide the student with hands-on experience relating to the course concepts including basic UNIX commands, utilities, windowing systems, filters, shell programming, file systems, network communication, program execution and basic system programming.

Prerequisites: CIS 111 or concurrent enrollment. Programming experience advisable.

#### CIS 140 HEALTH INFORMATION MANAGEMENT

3 Lecture 0 Lab 3 Credit Hours(s)

The course is organized around the HIPAA components of terminology, transaction framework, planning, privacy and security. It applies across a diversity of medical systems including call centers, nurse triage, financial, accounting, marketing, resources planning, imaging and claims clearinghouse systems.

Prerequisite: CIS 111.

#### CIS 150 INFORMATION SECURITY MANAGEMENT

3 Lecture 0 Lab 3 Credit Hours(s)

This course examines the field of information security to prepare information systems students for their future roles as business decision-makers. It presents a balance of the managerial and the technical aspects of the discipline.

Prerequisite: CIS 111 with a grade of C or better.

#### CIS 160 CAREER SEMINAR, CAREER EXPLORA

2 Lecture 0 Lab 2 Credit Hours(s)

This seminar is designed for matriculated CIS students currently participating in an approved cooperative education work experience. The seminar will include discussion and evaluation of various work experiences, and development of knowledge, skills and attitudes which will help prepare students for successful careers in information systems.

Prerequisite: Permission of instructor required.

#### CIS 161 SPRING CAREER SEMINAR, CAREER

2 Lecture 0 Lab 2 Credit Hours(s)

This seminar is designed for matriculated CIS students currently participating in an approved cooperative education work experience. This seminar will involve discussing and evaluating various work experiences. Students will be provided with an opportunity for developing skills to be successful in their chosen career. The seminar will concentrate on the development of leadership skills, communication skills and influence skills in a business environment.

Prerequisite: Permission of instructor required.

#### CIS 211 FILE ORGANIZATION

3 Lecture 0 Lab 3 Credit Hours(s)

A course designed to present data access and data storage concepts using a relational database platform. SQL (Structured Query Language) will be utilized in both interactive and embedded mode. Indexed access methods and current secondary storage hardware will also be covered in the course.

Prerequisite: CIS 123 with a grade of C or better.

#### CIS 212 SYSTEMS ANALYSIS AND DESIGN

3 Lecture 0 Lab 3 Credit Hours(s)

The life cycle of the development of a computer-based CIS information processing application. Topics include management information systems, the systems study, charting and documentation, I/O design considerations,

controls and audit trails, equipment and software selection, implementation and maintenance. A case study, which applies the course concepts, is currently being used.

Prerequisite: CIS 112 or CIS113 or CPS141, with a grade of C or better.

#### CIS 213 ADV SOFTWARE APPS FOR BUSINESS

3 Lecture 0 Lab 3 Credit Hours(s)

This course is designed to include more advanced operations, applications and capabilities of software within a business environment. Topics include: operating system functions; file management; advanced database management; advanced spreadsheet, presentation and management software; data analytic software; and application software integration.

Prerequisite: CIS 111 with a grade of C or better or departmental permission.

#### CIS 214 C++ OBJECT-ORIENTED PROGRAMMING

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to the fundamental constructs of the C++ language. The primary focus of the course will be to develop and utilize an object oriented approach to programming. Therefore, the constructs in C++, which relate to object oriented programming concepts, will be explored in depth. The course will include a large programming project.

Prerequisite: CIS 114.

#### CIS 215 INTERNET PROGRAMMING USING JAVA

3 Lecture 0 Lab 3 Credit Hours(s)

This course will present the basic constructs of the JAVA programming language and the fundamental methods for JAVA based internet programming. In addition to providing the student with a knowledge of JAVA, the course will also include object oriented concepts as well as the concepts in object oriented design. The student will produce both JAVA applets and JAVA applications. Familiarity with an object oriented language such as C++ would be beneficial.

Pre-Requisites: CIS 114, an object oriented programming course or permission of instructor.

#### CIS 216 LAN I - WINDOWS SERVER

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to the concepts involved in designing, installing, optimizing and maintaining a Windows Server based local area network. The course will approach the subject matter from both a practical and a theoretical perspective.

Prerequisite: CIS 111 or concurrent enrollment, or permission of the instructor.

#### CIS 217 LAN II - ADVANCED SERVER

3 Lecture 0 Lab 3 Credit Hours(s)

This course will introduce the student to the advanced concepts involved in designing, installing, optimizing and maintaining a local area network. The course will primarily focus on the advanced server capabilities of a Windows server local area network. The course will approach the subject matter from both a practical and a theoretical perspective.

Prerequisite: CIS216 or permission of the instructor.

#### CIS 218 ROUTING & SWITCHING TECHNOLOGY

3 Lecture 0 Lab 3 Credit Hours(s)

This course will provide the student with the opportunity to study routing and switching technologies in a CISCO based data communication environment. The student will be exposed to TCP/IP, router programming, firewalls and security, as well as computer network design. The material covered will be applied in a communication networking laboratory.

Prerequisite: CIS 117 with a grade C or better.

#### CIS 223 COMPUTER PROJECTS & APPLICATIONS

3 Lecture 0 Lab 3 Credit Hours(s)

Students are provided with the opportunity to function in a realistic business environment. The course focuses on a case study that requires students to apply knowledge from previous computer information systems courses. The project includes the development of a real time software application using a combination of software technologies. A substantial amount of programming will be required in a high level computer language. The project development includes the analysis and design of a solution, the coding of the solution, testing, extensive documentation and concludes with a presentation of the system. Prerequisites: CIS 212, CIS213 and programming experience in a high level computer language.

#### CIS 226 ADVANCED UNIX/LINUX

3 Lecture 0 Lab 3 Credit Hours(s)

This course will provide the student with the opportunity to study the UNIX/LINUX operating systems in detail. Among the topics covered will be advanced scripting, networking, advanced editing, security, web servers and system administration. The course will also include a discussion of operating system design and the applicability of the design to the UNIX/LINUX environment.

Prerequisites: CIS 126 with a grade of C or better and a programming course.

#### CIS 227 COMPUTER ARCHITECTURE AND ORG

3 Lecture 0 Lab 3 Credit Hours(s)

A course in IBM 390 Assembler Language designed to introduce students to data types, data structures, I/O processing, macro processing, dumps and debugging, internal and external subroutines and data manipulation.

Prerequisite: CIS 112 with a grade of C or better or CPS 141 with a grade of C or better, or permission of the instructor.

#### CIS 228 WEB SITE ADMINISTRATION

3 Lecture 0 Lab 3 Credit Hours(s)

This course will provide the student with an opportunity to learn the necessary skills required to administer a Web site. The course will include coverage of operating systems, firewalls, security, web hosting and TCP/IP. Client side software including JavaScript will be utilized as well as ASP.NET for server side software. Real time database access using Microsoft SQL. Server will be covered

Prerequisites: CIS 111 and either CIS 107 or CIS 108.

#### CIS 233 ADVANCED VISUAL PROGRAMMING

3 Lecture 0 Lab 3 Credit Hours(s)

This course will cover the advanced features of the Visual Basic Programming language. In particular, the course topics will include object-oriented concepts, relational database programming, active server pages, Visual Basic for Applications, Active X programming and multi-dimensional array processing. The student will complete programming projects in each topical area.

Prerequisite: CIS 113 with a grade of C or better.

#### CIS 235 ADVANCED JAVA PROGRAMMING

3 Lecture 0 Lab 3 Credit Hours(s)

This course will present the advanced capabilities of the JAVA language and study, in some detail, the nuances of the language. As the JAVA technology continues to mature, it is expected that the subject matter of the course may vary somewhat from year to year. The broad areas to be covered include closing, multithreading, JDBC, server side programming, socket programming and JAVA beans.

Prerequisite: CIS 215.

#### CIS 271 SPECIAL STUDY PROJECT I

1 Lecture 0 Lab 1 Credit Hours(s)

A special learning experience designed by one or more students with the cooperation and approval of a faculty member. Proposed study plans require departmental approval. Projects may be based on reading, research, community service, work experience, or other activities that advance the student's knowledge and competence in the field of computer information systems or related areas. The student's time commitment to the project will be approximately 35-50 hours.

#### CIS 272 SPECIAL STUDY PROJECT II

2 Lecture 0 Lab 2 Credit Hours(s)

Similar to CIS 271, except that the student's time commitment to the project will be approximately 70-90 hours.

#### CIS 273 SPECIAL STUDY PROJECT III

3 Lecture 0 Lab 3 Credit Hours(s)

Similar the CIS 271, except that the student's time commitment to the project will be approximately 105-135 hours.